



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/566,460 | 01/30/2006 | Shuichi Tasaka | 10873.1829USWO | 3887 |

53148 7590 09/29/2009
HAMRE, SCHUMANN, MUELLER & LARSON P.C.
P.O. BOX 2902-0902
MINNEAPOLIS, MN 55402

| |
|----------|
| EXAMINER |
|----------|

BIBBINS, LATANYA

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2627

| | |
|-----------|---------------|
| MAIL DATE | DELIVERY MODE |
|-----------|---------------|

09/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/566,460 | Applicant(s) TASAKA ET AL. | |
| | Examiner LaTanya Bibbins | Art Unit 2627 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 6-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 6-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 8, 2009 has been entered.

2. In the remarks filed on September 8, 2009, Applicant amended claim 1 and submitted arguments for allowability of pending claims 1, 2, 4 and 6-23.

Response to Arguments

3. Applicant's arguments filed September 8, 2009, regarding Hiroki, have been fully considered but they are not persuasive.

Applicant argues that Hiroki fails to specifically disclose an outer power calibration area forming part of the data recordable area.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "an outer power calibration are forming part of the data recordable area") are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Art Unit: 2627

4. Applicant's arguments with respect to Toshiaki have been considered but are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. **Claims 1, 2, 4 and 6-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 1 recites the limitations "the address information" and "the final point."

There is insufficient antecedent basis for these limitations in the claim.

Dependent claim 4 recites "wherein there are a plurality of recording layers."

However, claim 1 (from which claim 4 depends) recites "a recording layer" and "the recording layer." Therefore, there is insufficient antecedent basis for the plurality of recording layers recited in the claim.

Dependent claims 6, 8 and 9 recite "an adjacently stacked nth recording layer and (n+1)th recording layer." However, claims 4 and 1 (from which claims 6, 8 and 9 depend) recite "a recording layer" and "the recording layer." Therefore, there is insufficient antecedent basis for the nth and (n+1)th recording layers recited in the claims.

Dependent claims 2, 7 and 10-23 do not resolve the 35 U.S.C. 112 second paragraph issues of claims 1, 4, 6, 8 and 9 recited above and are therefore rejected as incorporating the deficiencies of claims upon which they depend.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. **Claims 1, 2, 12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Hiroki (US Patent Number 5,703,841).**

Regarding claim 1, Hiroki discloses an information recording medium having a recording layer including a data recordable area for recording user information signals (see the data zone of Figure 11), a lead-in area provided on the inner periphery of the data recordable area (see the Lead-In Zone of Figure 11), an inner power calibration area provided further on the inside of the lead-in area for recording test recording patterns (see the Inner Test Zone in Figure 11), and a recording management area for recording management information related to the inner power calibration area (see the Inner Control Zone in Figure 11), wherein an outer power calibration area is provided on the outer periphery of the final point of recording of the user information signal on the recording layer (see the Outer Test Zone in Figure 11).

The newly added claim limitation "by overwriting the address information of the final point with an address indicating the location of the innermost periphery of the outer power calibration area, the extent of the user data recordable area can be shrunk inward" is directed toward either an intended use of the information recording medium and is not a structural feature of the information recording medium, or is a product-by-process limitation, and therefore is accorded patentable weight only to the extent that the process results in a different product, i.e., a different medium. The newly added claim limitation does not result in any change in the physical structure of the information recording medium but rather recites the intended use of the information recording medium. A recitation of the intended use or product-by-process limitation of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (*Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987)). See also MPEP 2114.

Regarding claim 2, Hiroki further discloses the information recording medium according to claim 1, wherein: the recording layer further includes a lead-out area (see the lead-out zone of Figure 11), and the outer power calibration area is provided between the data recordable area and the lead-out area (see the location of the Outer Test Zone in relation to the Data Zone and the Lead-Out Zone in Figure 11).

Regarding claim 12, Hiroki further discloses the information recording medium according to claim 1, wherein an outer recording management area used for recording

Art Unit: 2627

management information related to the outer power calibration area is provided on the outside of the data recordable area (see the Outer Control Zone in Figure 11).

Regarding claim 15, Hiroki further discloses an information recording and reproducing device for recording desired user information signals in the data recordable area of the information recording medium according to claim 1, comprising: a rotary drive unit that rotates the information medium (see the spindle motor, Figure 7 element 11), an optical pickup that performs information signal recording or information signal reproduction by irradiating the information recording medium with light (see the information recording/reproducing head, Figure 7 element 6), and a calibration control unit that performs calibration of irradiation power using the optical pickup by moving the optical pickup at least to either one of the inner and outer power calibration areas of the information recording medium (see the CPU, Figure 7 element 1 and the corresponding discussion in column 11 lines 28-35, column 12 lines 45—column 13 line 25).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claims 4, 8, 9 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US Patent Number 5,703,841) in view of Ito et al. (US Patent Number 7,184,377 B2).**

Regarding claim 4, Hiroki discloses the information recording medium according to claim 1 as noted in the 35 U.S.C. 102(b) rejection above. Hiroki further discloses in the one recording layer, the outer power calibration area is provided on the outer periphery of the final point of recording of the user information signal (Hiroki Figure 11).

Hiroki, however, fails to specifically disclose, while Ito discloses a plurality of recording layers (Figure 6 elements 51 and 52), recording of a user information signal on one recording layer out of two adjacently stacked recording layers among the plurality of recording layers is performed from the inner periphery to the outer periphery of the information recording medium (see the recording direction in the first recording layer 51 in Figure 6) and recording of a user information signal on the other recording layer of the two recording layers is performed from the outer periphery to the inner periphery of the information recording medium (see the recording direction in the second recording layer 52 in Figure 6) in the other recording layer, the outer power calibration area is provided on the outer periphery of the starting point of recording of the user information signal (Figure 6 element 11 in the second recording layer 52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ito into that of Hiroki and have a multilayer recording medium. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to provide an information recording medium having high recording density and a large capacity (as suggested by Ito in column 1 lines 18-20).

Regarding claim 8, the combination of Hiroki and Ito disclose the information recording medium according to claim 4. Ito further discloses wherein an n th outer power calibration area and an $(n+1)$ th outer power calibration area are provided, respectively, in an adjacently stacked n th recording layer and $(n+1)$ th recording layer, with an n th middle area provided on the inner periphery of the n th outer power calibration area in the n th recording layer, and an $(n+1)$ th middle area provided on the inner periphery of the $(n+1)$ th outer power calibration area in the $(n+1)$ th recording layer (see the middle area of Ito in Figures 6, 12 and 16).

Regarding claim 9, the combination of Hiroki and Ito disclose the information recording medium according to claim 8. Ito further discloses the information recording medium according to claim 8 wherein in each adjacently stacked n th recording layer and $(n+1)$ th recording layer, the n th middle area and the $(n+1)$ th middle area, as well as the n th power calibration area and the $(n+1)$ th power calibration area, are arranged by shifting them, in their entirety, towards the inner periphery, such that at least a portion of the n th middle area and the $(n+1)$ th middle area, as well as the n th power calibration area and the $(n+1)$ th power calibration area, is positioned on the inside of the outermost location that permits recording user information signals (see the middle area of Ito in Figures 6, 12 and 16).

Regarding claim 23, the combination of Hiroki and Ito disclose an information recording and reproducing device for recording desired user information signals in the data recordable area of the information recording medium according to claim 4, comprising: a rotary drive unit that rotates the information recording medium (see the

Art Unit: 2627

spindle motor of Hiroki in Figure 7 element 11), an optical pickup that performs information signal recording or information signal reproduction on a recording layer by irradiating any of the recording layers among the plurality of recording layers provided in the information recording medium with light (see the information recording/reproducing head of Hiroki, Figure 7 element 6), and a calibration control unit that performs calibration of irradiation power using the optical pickup by moving the optical pickup at least to either one of the inner and outer power calibration areas of the information recording medium on the recording layer where one intends to perform recording or reproduction of an information signal (see the CPU of Hiroki, Figure 7 element 1 and the corresponding discussion in column 11 lines 28-35, column 12 lines 45—column 13 line 25).

11. Claims 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US Patent Number 5,703,841) in view of Ito et al. (US Patent Number 7,184,377 B2), as applied to claim 4 above, and further in view of Lee et al. (US PGPub Number 2008/0013425 A1).

Regarding claim 6, the combination of Hiroki and Ito disclose the information recording medium according to claim 4. Hiroki and Ito fail to disclose, while Lee discloses wherein in an n th inner power calibration area, an $(n+1)$ th inner power calibration area, an n th outer power calibration area, and an $(n+1)$ th outer power calibration area provided, respectively, on an adjacently stacked n th recording layer and $(n+1)$ th recording layer, test recording execution areas provided in the respective power

Art Unit: 2627

calibration areas are provided such that they don't mutually overlap in the direction of stacking of the recording layers (see the location of the OPC areas in Figures 3A, 4A, 4B, 5A, 5B, 6A-6C, 7A, 7B, 8 and 9 and the discussion in the abstract and paragraph [0047]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Hiroki and Ito with Lee. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to prevent the degradation of recording due to an influence of an OPC area in an information storage layer upon an OPC area in an adjacent information storage layer (as suggested by Ito in the abstract).

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US Patent Number 5,703,841) in view of Ito et al. (US Patent Number 7,184,377 B2), as applied to claim 4 above, and further in view of DVD+R 4.7 Gbytes Basic Format Specifications version 1.2, System Description (herein Non-Patent Document 1).

Regarding claim 7, the combination of Hiroki and Ito disclose the information recording medium according to claim 4. Hiroki and Ito, however, fail to specify the direction of test recording. Non-Patent Document 1, however, discloses that the direction of test recording performed for power calibration in the inner power calibration area and in the outer power calibration area is opposite to the direction of recording of

Art Unit: 2627

the user information signal on the one recording layer (see the discussion regarding the outer disc test zone in section 21.3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Non-Patent Document 1 into the teachings of Hiroki and Ito. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to comply with the DVD+R specifications.

13. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US Patent Number 5,703,841) in view of DVD+R 4.7 Gbytes Basic Format Specifications version 1.2, System Description (herein Non-Patent Document 1).

Regarding claim 10, Hiroki discloses the information recording medium according to claim 1 as noted in the 35 U.S.C. 102(b) rejection above. Hiroki further discloses the outer power calibration area provided in a circular fashion (see the Outer Test Zone of Figure 11) but fails to specifically disclose, while Non-Patent Document 1 discloses wherein the outer power calibration area is provided at a distance of at least 0.2 mm on the outside from the outermost recordable location in the data recordable area (see the location of the Outer Disc Test Zone in relation to the Data Zone in Table 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the location of the outer power calibration

Art Unit: 2627

are taught by Non-Patent Document 1 into the information recording medium of Hiroki.

One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to comply with the DVD+R specifications.

Regarding claim 11, Hiroki discloses the information recording medium according to claim 1 as noted in the 35 U.S.C. 102(b) rejection above but fails to disclose wherein recording management information related to the outer power calibration area also is recorded in the recording management area. Non-Patent Document 1, however discloses the claimed invention except that it contains both an inner and outer recording management area (the Inner and Outer Disc Administration Zones).

It would have been an obvious matter of design choice to allow the inner disc administration zone of Non-patent document 1 control both the inner and outer test zones since the applicant has not disclosed that doing so solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with both the inner and outer administration zones.

14. Claims 13, 14, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiroki (US Patent Number 5,703,841) in view of Morozumi et al. (US Patent Number 2003/0185120 A1).

Regarding claim 13, Hiroki discloses the information recording medium according to claim 1 as noted in the 35 U.S.C. 102(b) rejection above. Hiroki, however, fails to disclose, while Morozumi discloses wherein a test recording pattern is recorded

in the outer power calibration area when the data recording speed in the data recordable area is a predetermined speed or higher (see the discussion in paragraphs [0016] and [0017]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Morozumi with that of Hiroki. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to properly define the laser power such that quality of writing data can be high as suggested by Morozumi in paragraphs [0016] and [0017]).

Regarding claim 14, Hiroki discloses the information recording medium according to claim 1 as noted in the 35 U.S.C. 102(b) rejection above. Hiroki, however, fails to disclose, while Morozumi discloses wherein a test recording pattern is recorded in the outer power calibration area when the data recording speed in the data recordable area exceeds the recording speed at which recording was performed in the data recordable area in the past (see the discussion in paragraphs [0016] and [0017]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Morozumi with that of Hiroki. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to properly define the laser power such that quality of writing data can be high as suggested by Morozumi in paragraphs [0016] and [0017]).

Regarding claim 16, Hiroki discloses the information recording and reproducing device according to claim 15 as noted in the 35 U.S.C. 102(b) rejection above. Hiroki, however, fails to disclose, while Morozumi discloses a rotation control unit that controls the speed of rotation of the information recording medium by the rotary drive unit (the servo processor, Figure 1, element 22 and the discussion in paragraph [0070]), wherein the calibration control unit acquires information on the rotational speed of the information recording medium from the rotation control unit (see the discussion in paragraph [0017]) and, depending on the acquired rotational speed information, and determines in which to perform calibration of the irradiation power using the optical pickup, whether the inner power calibration area or the outer power calibration areas (see the discussion in paragraphs [0016] and [0017]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Morozumi with that of Hiroki. One of ordinary skill in the art at the time the invention was made would have been motivated to combine the teachings in order to properly define the laser power such that quality of writing data can be high as suggested by Morozumi in paragraphs [0016] and [0017]).

Regarding claim 17, the combination of Hiroki and Morozumi disclose wherein the calibration control unit carries out irradiation power calibration using the optical pickup in the outer power calibration area when the speed represented by the rotational speed information exceeds a predetermined speed (see the discussion in Morozumi paragraphs [0016] and [0017]).

Allowable Subject Matter

15. Claims 18-22 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

Claims 18-22 are allowable for the reasons indicated in the Office Action mailed December 23, 2008.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 2627

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627